

## **PREVALENCE OF ANEMIA AMONG PREGNANT WOMEN FROM KARANJALI VILLAGE MAHARASHTRA**

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### **Abstract**

During pregnancy, anemia is a general problem. The Hb % range of less than 10.5 g/dL, regardless of gestational age, is considered genuine anemia. Nutritional deficits, parasite and bacterial infections, and inborn red cell abnormalities including thalassemia are the most general problem of anemia during pregnancy. Iron deficiency, which affects an estimated 20-80 percent of the world's population, particularly women, is the leading cause of anemia in obstetricstra.. 20 µL of blood was collected from the ring-bearing finger of pregnant women. Hb was probable done by using Sahli's method according to the Center for Disease Control (CDC) which states that anemia in pregnancy Hb less than 11 g/dl (Hematocrit; { Hct}\33%) in 1st and 3rd trimester is < 10.5 g/dl (Hct\32%) in the 2nd trimester while (WHO) states that anemia in pregnancy Hb values is < 11gm/ dl. Over the decades, maternal death rates have decreased in several nations around the world, including India, but only in resource-poor and tribal-rural areas. We also suggest observing "National Anemia Awareness and Treatment Day" as a way of raising public awareness and combating this health problem. The inaccessibility of such areas, as well as the lack of modern facilities, disappoints the trained personnel.

**Keywords:-**Anemia, Pregnancy, Prevalence, Karanjali, hemoglobin.

### **Introduction:-**

Iron is very important to the body like many other elements. The body gets iron from various substances and the body's need for iron is met by it. However, sometimes the amount of iron you get is low in the body. This is when the problem of iron deficiency arises in the body. Anemia is a condition that develops when the body cannot make enough red blood cells. In this, red blood cells are considered one of the main components of the body. Its function is beneficial to the body. So they should be produced in sufficient quantity in the body. . The iron that drives this formation. That is why we say that iron is essential for the body. So those who seem to have iron deficiency in their body get anemia. Today we will know all the information related to this disease in detail so that your knowledge will also increase.

Available proportions of the pervasiveness of anemia during gestation in developing countries range from 53 to 61% for Africa, from 44 to 53% for South-East Asia, and from 17 to 31% for Europe and C Breymann Seminars\_080415 North America [1]. It is expected that low iron is the peak public etiological subject accountable for this condition [2, 3]. Method According to the Center for Disease Control (CDC) they state that anemia in pregnancy Hb less than 11 g/dl (Hematocrit; { Hct}\33%) in 1st and 3rd trimester is < 10.5 g/dl (Hct\32%) in the 2nd trimester while (WHO) states that anemia in pregnancy Hb values is < 11gm/ dl.[4,5]. Nearby is a comparatively partial effort in numerous zones of India. Low hemoglobin is the main fitness issue that affects basically in pregnancy and lactation phase and it has become a vast subject in India, for adolescent girls who marry early Giri 2021[6]. Slightly complaint that leads to low Hb signifies an amplified risk of an irregular course of pregnancy and inordinate maternal and infant morbidity and mortality. According to WHO data, anemia is associated with 40% of maternal deaths worldwide [7]. Low Hb concentration is a disorder where the number of RBCs' when their oxygen-carrying volume is insufficient to meet physiologic demands and is conservatively occupied as a hemoglobin (Hb) value that is < 2 standard deviation (SD) under the average value for fit coordinated residents by age, sex, altitude, smoking, and pregnancy status [8]. Center of Disease Control (CDC) describes low Hb in pregnancy hemoglobin < 11 g/dl (Hematocrit ;{Hct}\33%) in the 1st and 3rd trimester and < 10.5 g/dl (Hct\32%) in the 2nd trimester whereas World Health Organization (WHO) describes low Hb in pregnancy, Hb values <11gm/dl [9, 10]. We aim to concentrate on concerning Hb % in the range of pregnant women, their age group, which suffers from a dissimilar scenario such as financial position, malnutrition as well as helminthic (worm) infection, low or minimum intact of folic acid tablets or syrup, sickle cell anemia, and thalassemia. Anemia Therapy Despite definite evidence of ID on

unfavorable fetomaternal outcomes, a recent Cochrane review [16] failed to reveal a clear advantage of treating IDA in pregnancy. We propose treating IDA during pregnancy [37, 18], which is by most international standards.

Over the decades, maternal death rates have decreased in several nations around the world, including India, but only in resource-poor and tribal-rural areas. [14, 15] The inaccessibility of such areas, as well as the lack of modern facilities, disappoints the trained personnel. As a result of its positioning in such places, neglected health services with sub-optimal health promotion efforts have resulted. This causes mistrust of the health system and evidence-based medical interventions among the area's poor. In the five years from 2012 to 2017, we present our experience implementing behavioral change interventions to improve the utilization of maternity services in rural India, a population of 80,000.

**Material and Method:-**

This test has been done for pregnant women in Karanjali village tal. Peth.Dist.Nashik Maharashtra. Hemoglobin is estimated by Sahli'shemometer method.Colorimetric method, Autoa-nalyzer, Hemoglobin and Hematocrit (HCT) Test Meter Kit. Or color scale kit are also used. In our study, we use the Sahlshaemometer method which is easily available at a very low cost and friendly to handle. All the pregnant women are called to the PHC center for examination their hemoglobin, we also check their family circumstantial like social and economic status (monthly income), spouse and their education, size of family nuclear or joint, diet and nutritional value, extreme blood loss in the menstrual cycle before pregnancy, inquire about their previous History for parasitic infection, food quality, and quantity. In our study area, the extreme strength of the students forms a tribal region that is socially and economically poor. this method is more popular in rural areas as it is more accurate and cheaper than any other method like cell counter or auto-analyzer which are more expensive and risky to handle and transportation for work. After cleaning the fingertip with a sprit swab, by using sterile disposable lancets and pierce the skin. Wipe away the first few drops of blood and then suck a little blood into the capillary pipette until reached up to 20µl marking, avoiding air bubbles. Blow blood out of capillary pipette into 5% N/10 HCL sucks blood back into pipette several times and blow out again and transferred it into square or round glass tube, waited for 3 -4 minutes and dilute with pure distilled water until colors are the same, after match the color stop dilution and take the reading. The entire process was done in natural light for the best result.

Table showsWHO classification of severity of anaemia in adult females [11].

**Table 1.** Hemoglobin levels to diagnose anemia at sea level [11]

	Non Anemia (g/dl)	Anemia (g/dl)		
		Mild	Moderate	severe
Non pregnant women(age >19 years or above	>=12 or higher	11-11.9	8-10.9	< 8
Pregnant women	>=11 or higher	10-10.9	7-9.9	<7

**Table 2.**Normal hemoglobin range according to age. [12]

Age group	Hb (Range in gm/dl)
New born(< 1 week old)	14 -22
6 Month old	11- 14
Children(1-15)	11-15
<b>Adults</b>	
Men	14 -16
Women	12 -16

**Table3.** Classification of the anemia according to its severity [13]

Anemia	Hb ranges in gm/dl
Mild	10.00-11.09
Moderate	7.00-9.9
Sever	<7

**Table 4.** Data illustrate for A.N.C.Women showing Hb % in Mild, Moderate & Sever condition.

Sr.No	Age Group	No Of A.N.C	Haemoglobin concentration among A.N.C [11,12 & 13]			P- Value
			Mild	Moderate	severe	
			10-10.9	7-9.9	<7	
1	19-22	18 (45 %)	15 (83.33%)	3(16%)	00	p=0.2645
2	23-26	12 (30 %)	8(66.66%)	4(33.33)	00	

3	27-30	09 (22.5%)	3(33.33%)	3(33.33%)	3(33.33%)	
4	31-34	01 (2.5 %)	-	1(100.00%)	-	
<b>Total:-</b>		<b>40(100%)</b>				

**Table5. Data illustrate Univariate statistics by bootstrap Simple method for A.N.C Patient.**

	Mild	Moderate	severe
<b>N</b>	3	3	3
<b>Min</b>	3	3	0
<b>Max</b>	15	4	3
<b>Sum</b>	26	10	3
<b>Mean</b>	8.666667	3.333333	1
<b>Std. error</b>	3.480102	0.333333	1
<b>Variance</b>	36.33333	0.333333	3
<b>Stand. dev</b>	6.027714	0.5773503	1.732051
<b>Median</b>	8	3	0
<b>25 prcentil</b>	3	3	0
<b>75 prcentil</b>	15	4	3
<b>Skewness</b>	0.491613	1.732051	1.732051
<b>Kurtosis</b>	-2.333333	-2.333333	-2.333333
<b>Geom. mean</b>	7.113787	3.301927	0
<b>Coeff. var</b>	69.55054	17.32051	173.2051

**Table 6. Data illustrate Test for equal means**

	Sum of sqrs	df	Mean square	F	p (same)
<b>Between groups:</b>	42.6667	1	42.6667	2.327	0.2018
<b>Within groups:</b>	73.3333	4	18.3333		Permutation p (n=99999)
<b>Total:</b>	116	5	0.3992		
<b>Components of variance (only for random effects):</b>					
<b>Var(group):</b>	8.1111	<b>Var(error):</b>	18.3333	<b>ICC:</b>	0.306723
<b>omega2:</b>	0.1811				
<b>Levene's test for homogeneity of variance, from means p (same): 0.1027</b>					
<b>Levene's test, from medians p (same): 0.157</b>					
<b>Welch F test in the case of unequal variances: F=2.327, df=2.037, p=0.2645</b>					

**Discussion:-**

Working closely with the community and at all levels of the health system in India's tribal areas, as well as understanding the community's needs and viewpoints, were key factors in increasing the community's health-seeking behavior and establishing trust in medical service providers.

Anemia is a condition in which the body becomes deficient in iron. Some of the common symptoms of this disease are fatigue, cold hands, and feet, dizziness, chest pain, yellowing of nails, headache, low body temperature, difficulty in breathing, etc. If we are not eating an iron-rich diet, it can be caused by bleeding, celiac or Crohn's disease. This also hinders the body from absorbing iron from the diet. Iron deficiency affects women more than men. Pregnant women are at greater risk. This is why doctors advise pregnant women to follow an iron-rich diet. In today's life due to malnutrition, anemia is very common among the adolescent age group, our study 558 form, the age group 15 to 19 adolescent were observed from rural area karanjali village, the overall prevalence of anemia was 78.67%, normal, mild, moderate and severe were observed, mild, moderate and severe adolescent needs iron and folic acid-rich supplements, adolescent also needs the consumption of high iron food for increases hemoglobin and bring down the prevalence of anemia among them by maintaining their health. The major issue of iron deficiency anaemia was found among adolescents Giri 2021[6]. , In our study, we also find out some miscarriages are due to low hemoglobin.

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**Conclusion:-**

The present study was conducted in Karanjali Village Maharashtra the age group from 19-22 of Antenatal care (ANC) mother shows 83.33 % for mild, 16 % for moderate & absence in severe. The second age group of 23 - 26 for ANC mothers shows 66.66 % for mild while 33.33% for moderate and no more in sever type. In the age group, 27 – 30 the ANC mother shows 22.5% in mild anemia, while in moderate the rate of anemia is 33.33 and 33.33 in moderate and severe anemia group. We also find out the P-value in our study which is < 0.2645. We also find out the Min, Max, Sum, Mean, etc refer to table No.5. As per our work and observation, there is a need for a healthy diet, having awareness program about anemia in pregnancy and there effect on both on mother and fetus, side effects of low iron consumption in the ANC period.

**CAUSES OF LOW Hemoglobin**

1. Malnutrition
2. Parasitic infection like helminths
3. Fast
4. Deficiency of vitamins/irons
5. Exertion
6. Excess bleeding occurs in pregnancy
7. Physical and mentally trace
8. Joint family/Nuclear family
9. Working as labor in the farm field.
10. Previously history of abortion.
11. Anemic at adolescent age and getting married
12. Long time anemic.
13. Regular follow-up, consulting, and consoling by the doctor or elder members nearby.

**Suggestion:-**

Our study was conducted in Karanjali village which is a tribal zone that comes in under the Peth tehsil. If we see the background of this area. Such kind of events is applied as sanitation and elevation of appropriate utilization of iron and folic acid tablets, self-testing of pregnancy votes and regular taking follow-up after 2-3 month for Hb, keep the record of deworming, counsel for captivating appropriate meals with vitamin C rich food, soy, nagli, meat, egg, milk, and its products, cereals, fruits and green vegetable, beet is also a natural source for cumulative hemoglobin, all these belongings are kept in even diet. NGOs, Colleges, colleges, and government bodies are necessary to form camping about anemia and highlight its side effect. For refining iron status Nutrition Education and supplementation should be a portion of the education system.

**Milk and Milk Products:-**

During pregnancy, there is a need for more nutrition than usual. During this time your diet should include calcium, folic acid, iron, and protein. A woman should include spinach, asparagus, broccoli, sour fruits, nuts, pulses, grains, and fortified bread in her diet. It is rich in Vitamin B and Folate.

**Milk and milk products:-**

In pregnancy both mother and baby need calcium. Milk and milk products are rich in calcium, vitamin D, and protein. For this, they must include milk, curd, yogurt, and cheese in their diet.

**Cereals:-**

Cereals like wheat, rice, sorghum, and sorghum are rich in fiber. Abdominal pressure during pregnancy can affect the digestive system. Eating fiber-rich foods reduces stomach problems. like wheat, rice, sorghum, and sorghum are rich in fiber. Abdominal pressure during pregnancy can affect the digestive system. Eating fiber-rich foods reduces stomach problems.

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